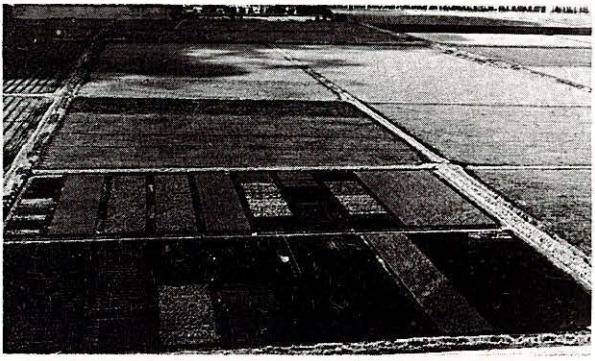
FLORIDA FIELD TRIALS



Aerial photo of trial grounds.

Add another season to each year for testing

FUNGICIDES
INSECTICIDES
SEED TREATMENTS
SOIL TREATMENTS
HERBICIDES
NEMATOCIDES

E1951

DR. G. R. TOWNSEND

BOX 356

BELLE GLADE, FLA.

Dyhrman / VEGETABLE PRODUCTION...

SERVICES OFFERED

An evaluation service is offered to the agricultural chemical industry. Our field service during the winter can be used to screen new chemicals before they are placed in your trials, or submitted to private or governmental institutions for evaluation against competitive products. These field trials also can be used to evaluate new formulations of products now being marketed. Information derived from your laboratories or from other field trials during the summer can be checked in these trials before your next summer testing program is planned. The development of new products can be hastened by many months through the time and additional experience gained in winter trials.

It is not suggested that this service will eliminate the need for laboratory screening of new chemicals. Tests which can be made in the laboratory or greenhouse will reduce the number of chemicals that should be placed in field trials, and will suggest the proper dosages for the effective materials. However, some products may pass all tests under controlled conditions in a laboratory or greenhouse, and still not perform well in the field. Field performance ought to be the criterion upon which a decision to manufacture a new product should rest.

Procedures

The tests are conducted on our own trial grounds located near Belle Glade, Florida. This is in a muckland vegetable farming area southeast of Lake Okeechobee. For most purposes the plots are single fifty foot rows, although shorter plots can be used if it is

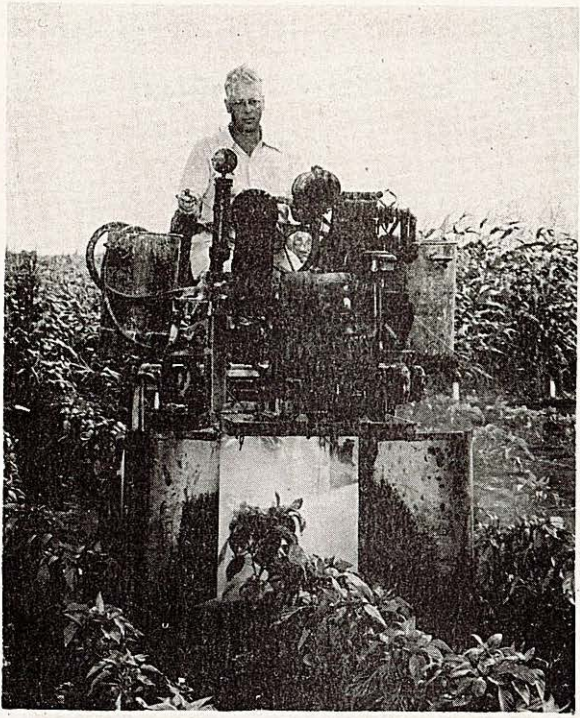
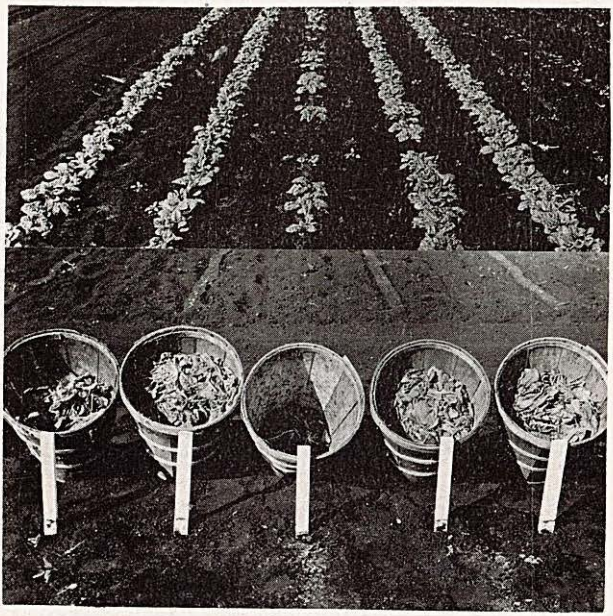


Photo of self-propelled spray rig for small plot work.

Photo of the result of a potato spray trial.

necessary to conserve scarce materials. In some types of tests a rectangular plot of 200 square feet is used. It is customary to use replicated plots, although for some of the early screening tests this may not be necessary. If yield records are to be used to evaluate a treatment, we do not recommend less than three replications.



Two photos of spinach seed treatment test.

Fungicides and insecticides that are used as foliage sprays are applied with suitable power equipment designed to deliver 150 gallons per acre at 350 pounds pressure. Materials to be used as dusts are applied with hand dusters at rates of 35 to 50 pounds of the mixed formulation per acre. Soil treatments can be applied by injection apparatus, if liquid, or by hand if they are in the powdered form. Herbicides are applied with hand sprayers at rates approximating 100 gallons per acre.

The amount of material needed for a test varies with the type of material, the size of plot, number of replications, and the number of times it must be applied. For most of the fungicide and insecticide tests

a 3 gallon batch is used to cover three replications of a treatment. A dosage of 2 pounds per 100 gallons requires only 27 grams of material for a batch of this size. A pound of most chemicals is sufficient material for spraying three replicates as much as fourteen times. The amounts of dusts needed for a trial usually do not exceed 10 to 15 pounds of the formulated product. The amounts of chemicals needed for soil treatment tests and for herbicide work can be calculated on the basis of plots of 200 square feet.

All field trials are subject to variances over which the operator has no control, or only partial control. We are doing all that can be done to minimize the chances that the trials will be affected adversely. Fall and spring planting schedules are used for the tender crops, while the hardier crops can be grown throughout the winter. Pumps are provided, both for irrigation and drainage, to maintain a reasonable control over water in periods of drouth or heavy rains. The tests are conducted with crops most likely to give the indications desired because of naturally high incidence of fungus disease or insect pest.

Materials may be tested for the control of:

Late blight on potatoes and tomatoes.
Cercospora leaf spot on celery.
Downy mildew on cucumbers.
Helminthosporium and rust on corn.
Root rot and damping-off on spinach and beets.
Bud worm and ear worm on corn.
Cabbage worms.
Aphis on peppers.
Leafhopper on beans.
Thrips on onions.
Nematodes on okra.
Herbicides on grasses, portulaca and amaranthus.

The following schedule of planting dates is offered as a guide to those who may wish to have tests made on a specific crop. It is of course desirable that we know several weeks in advance of these dates that the tests are to be run.

Crop	Dates to Start	Days to Complete
Beans *(Fall)*	Oct. 1-10	60
Beans *(Spring)*	Feb. 20-Mar. 5	60
Cabbage	Oct. 15-Feb. 15	90
Celery *(Seedbeds)*	Sept. 5-Oct. 15	70
Celery *(Transplanted)*	Nov. 25-Jan. 20	95
Cucumbers	Mar. 1-10	70
Onions	Dec. 1-15	135
Potatoes *(Fall)*	Oct. 1-5	80
Potatoes *(Spring)*	Feb. 10-15	80
Sweet Corn	Feb. 15-25	75
Tomatoes	Jan. 5-10	115

LARGE-SCALE DUSTING TRIALS

Equipment is available for conducting dusting trials with fungicides and insecticides on a scale comparable to field conditions. A four-row high clearance duster is used for this work. This machine applies dust formulations at rates of 35 to 60 pounds per acre, and is suitable for use in demonstration trials of chemicals of known effectiveness. It is not recommended for screening work on new compounds.

Plots for such dusting trials must be 100 feet long by 12 feet wide. The number of rows used will depend upon the choice of crop, but only the center rows will be used for data. Buffer plots of equal size are used between all treatments to minimize the effects of drifting dusts. The arrangement of the replicated plots in randomized blocks is advised. It is possible to have eighteen plots (6 treatments x 3 replications) on

an acre block. Trials requiring fewer than nine plots are not feasible. Crops recommended for this kind of trial are beans, cabbage, corn, potatoes and tomatoes

REPORTS

The information obtained from the tests will be reported to the client as soon as possible after completion of the tests. The representatives of the client will have access to the trials at any time for observation and to render progress reports to the client. All observations and data are held in confidence and the reports become the property of the client to use as he wishes. Reports on the fungicide trials generally will include yield data, in addition to the records of the estimates of disease on each plot. Insecticidal data will be reported as counts of the insect in question made before and after the application of the test material. Root gall counts and observations on the growth of test crops will be reported for nematocide tests. The data from the herbicidal tests are reported as weed counts on randomly selected squares, and observations concerning any phytoxic effects noted on the weeds or test crops.

PHOTOGRAPHS

Although photographic work is not made a part of the regular service of the field tests, photographs can be supplied if the client desires them. These can be obtained as black and white prints in any size up to 8" x 10", or in colored transparancies in 35 mm., 2¼ x 2¼, or 2¼ x 3½ inch sizes, at the expense of the client.

Photo showing group of Ohio growers viewing a Ferry-Morse Seed Co. cabbage trial - another type of project at Florida Field Trials.

RATES

(July 1, 1951 - June 30, 1952.)

SMALL PLOTS

First 50	$20.00 each
Additional plots	$15.00 each
All tomato plots	$20.00 each

LARGE DUSTING PLOTS

Any number at	$30.00 each